**Adjusting Time Zone Clocks**

The basic mode for adjusting a time zone clock are primarily:

| The basic mode for adjusting a time zone clock are primarily: | | | |
|---|---|---|---|
| 21, 24 and 51-1 (51-1 is for Alpha Characters) | | | |
| Mode | 21 | (Time Zone Offsets) | Example: 21-1 is Zone 1, 21-2 is zone 2 etc… |
| Mode | 24 | (DST (on/off)) | Example: 24-1 is Zone 1, 24-2 is zone 2 etc… |
| Mode | 51-1 | Second level programming for Digital Alpha Clocks | |

Any offsets needing less or more than 1 hr will need special programming (call our tech support).

| Entering Mode Programming |
|---|
| To get into programming press the Mode button until the flashing stops and release. |
| (A '1' displays and your in programming). |
| Using the 'up' and 'down' button will take you to the mode you want. |

| Exiting Programming |
|---|
| To exit programming, press the timer control button at any time |

| Special Notes – Alpha Characters if you have them | | |
|---|---|---|
| Mode | 51-1 | Go into Programming mode,<br>Use the up button to go to 51, push and release mode- (51 - 1) displays, Press and release 'mode', a curser shows on the first alpha. Use the up and down button to move the curser.<br>Once at the location you want to change press and release the 'mode' button, use the 'up' and 'down' to change the characters. (Press and Release the 'mode' button once set).<br>Use 'up' and 'down' to go to the next alpha you want to change and repeat the above steps.<br>Press the 'Timer control' button to exit once complete. |

| Save Your Settings |
|---|
| Once you have everything set correctly, save the settings by pressing and holding the 'mode' button until the clock counts to '4' - release the mode button and momentarily press and release the 'timer control' button.<br>The clock resets and should be saved. |

| Restoring Your Settings |
|---|
| If you ever get the clock displaying incorrectly, you can try to restore the last saved user configuration settings by pressing and holding the 'mode' button until the clock counts to '3' - release and momentarily press and release the 'timer control' button. The clock should reset to the last saved configuration. |

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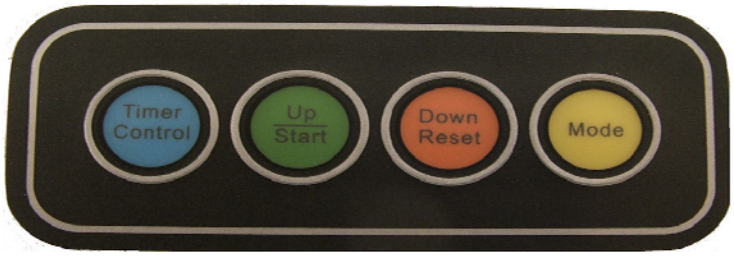
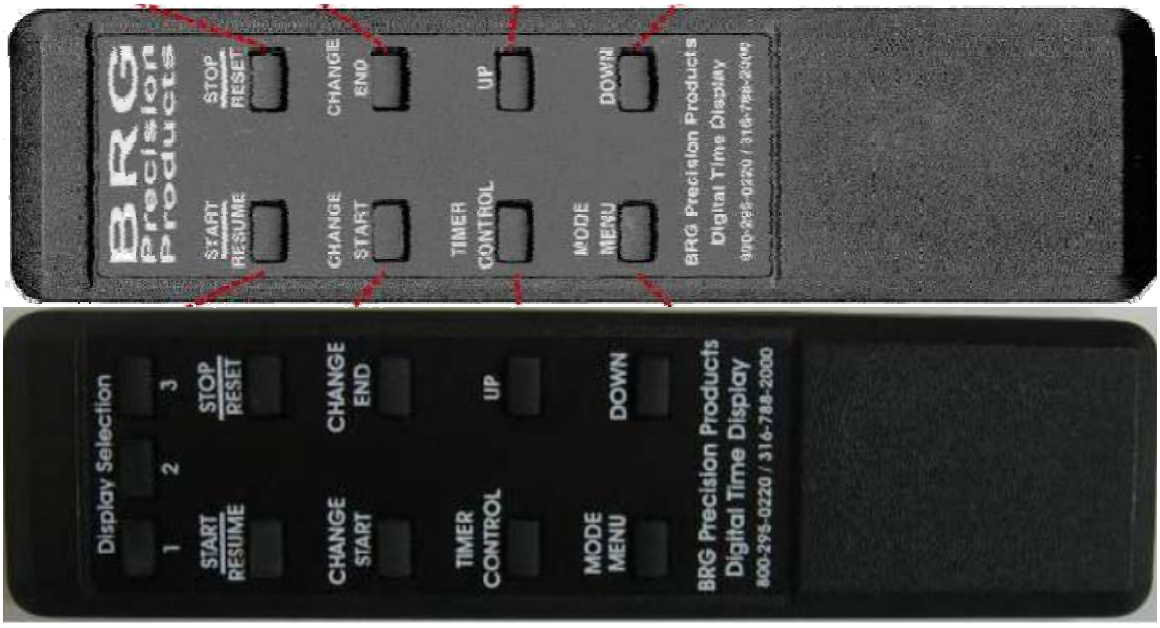
# Special Menu Modes

The configuration of your clock/counter/timer can be programmed and modified using the 4 control buttons on the clock, hand held remote control, or through a serial or Ethernet connection to a PC. This guide is for manually configuring your device by the hand held remote or control buttons.

Changing the configuration of your device should not be attempted without a defined purpose and an understanding of the mode changes.

The four buttons on the clock used for mode setting are MODE, UP, DOWN, and TIMER CONTROL. The remote uses the same four buttons with the MODE button marked as MODE MENU.

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## Button Functions

MODE: Enter the configuration menu and to shift between mode menu levels. MODE is also used to access the SPECIAL OPERATIONS that erase, save, and restore configurations or to perform diagnostic operations.

UP/DOWN: Index through mode levels and to change the value of the selected mode or change time.

TIMER CONTROL: Exit the configuration menu. Clocks built before March 2003 will not have this feature.

These older clocks require that you index the mode level down to mode 0 to exit the configuration menu. This is done by holding down the DOWN button when you are displaying a mode level and let the mode levels count down to 0 and then releasing the DOWN button.

**NOTE**: Clocks built before March 2003 will not have this feature. These older clocks require that you index the mode level down to mode 0 to exit the configuration menu. This is done by holding down the DOWN button when you are displaying a mode level and let the mode levels count down to 0 and then releasing the DOWN button.

## SPECIAL OPERATIONS

These commands perform global operations to save, restore, and erase configurations and to execute diagnostic features.

Introduction: To access the special operations, press and HOLD the MODE button for approx 10 seconds and the display flash and begin counting up from 0. Once it begins counting you know you are in the special operations mode and each count is a special mode. Each mode number is explained below. You'll continue to hold the mode button until the clock counts up to the desired SPECIAL OPERATION number you select and then release the MODE button followed by a quick press and release of the timer control button. If the mode lockout has been enabled, the display may flash for a few seconds when the MODE is first pressed and then will go to zero and begin to slowly count up.

Introduction: To access the special operations, press and HOLD the MODE button for operations number and then quickly release the MODE button, press and release timer control button.

SPECIAL OPERATION 0-Stops analog clock pulsing
Effective only when the clock is configured as an Analog Master clock. Used to pause pulsing during analog clock set up.

The following special operations (#2, #3 & #4) are extremely powerful and must be carefully considered before using to prevent total loss of your clock's custom programming.

SPECIAL OPERATION 2-Restores the clock to factory defaults.
Overwrites all custom features and operates as a simple clock. Multiple time zone displays, digital lettering, timer and counter features, serial communications and other custom features will be disabled. Often used to reset a clock to a known, default, configuration before re-configuring for a new function.
SPECIAL OPERATION 3-Recalls custom configuration.

Used to restore the clock to the last custom configuration saved with Special Operation 4. Often used when temporary changes to the clock need to be replaced with the last custom configuration or to recover from erroneous programming to the last good custom configuration.

SPECIAL OPERATION 4-Save current configuration.

NOTE: Special Operation 4 requires the additional step of clicking the TIMER CONTROL button after releasing the MODE button while the number 4 is still showing to verify that you wish to save a new custom configuration.

When this operation is executed, the current configuration of the clock is saved as the custom configuration and stored in a secondary memory location. This configuration can be recalled using Special Operation 3 when necessary. This operation should only be used when the clock is configured exactly the way you want it and you want to overwrite the previous custom configuration. Once this action is performed, the previous custom configuration is lost forever and cannot be recovered.

Important Note: Only earlier model clocks before ***** If you have made changes to the configuration and you are trying to save these changes with Special Operation 4 and you accidentally release the mode button on 2 or 3, the clock will be reset to factory defaults (mode 2) or the last custom configuration (mode 3) will be reloaded and you will lose the all of the changes you were trying to save.

SPECIAL OPERATION 6-ShowZoneNumberofmultipletimezonedisplay.

Displays will indicate their relative ordering in the clock. Useful for applying time zone rules and display formats to the correct displays in multiple display clocks. Bar segment or dot matrix alphanumeric displays will not show their display number. Press UP or DOWN to exit this operation.

SPECIAL OPERATION 7-Illuminate all displays

Test feature used to verify that all displays are functional with no missing dots or segments. Press UP or DOWN to exit this operation.

# Infrared Remote Control

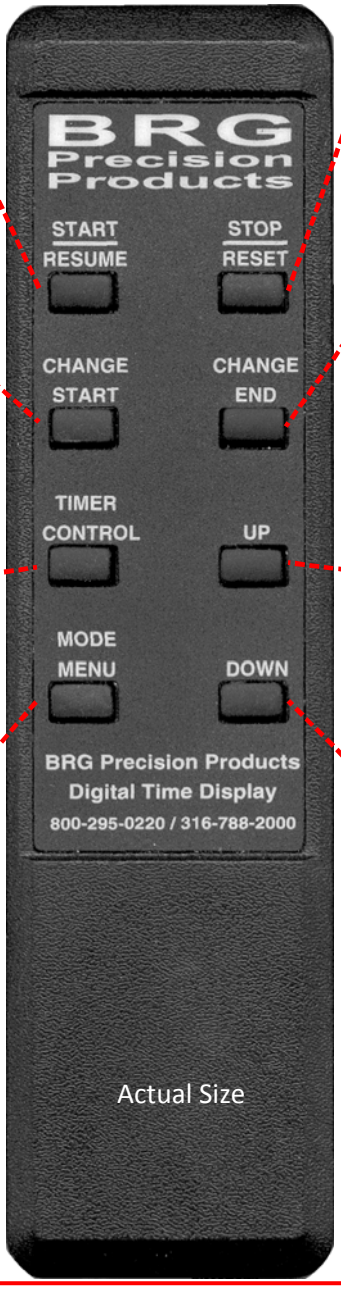
The infrared remote control is standard with time zone displays and optional for other models. It can be used to control real time displays, timers and counters. The remote can also be used to access and change the clock's configuration. The remote control receiver must be factory installed.

Timer - Press once to Start, Press again to Stop, Press again to resume . Counter - Press to increment the count.

Timer - Press once to access the starting time. Press Up or Down to change time. Press again to exit. Counter - Press once to access the starting count. Press Up or Down to change count. Press again to exit.

Timer - Press to start timer. Counter - Press to decrement the count.

Press once to access menu system. Press Up or Down to move to desired menu item. Press mode again to display menu value. Press Up or Down to change value. Press mode to exit menu item. Press Down until zero will exit the menu system.




Timer - Press once to Stop, Press again to reset. Counter - Press once to reset.

Timer - Press once to access the ending time. Press Up or Down to change time. Press again to exit. Counter - Press once to access the ending count. Press Up or Down to change count. Press again to exit.

Real Time Mode – Increment the time. Holding the button down will move faster. Menu Mode - Increment the menu address or menu item value.

Real Time Mode – Decrement the time. Holding the button down will move faster. Menu Mode - Decrement the menu address or menu item value.

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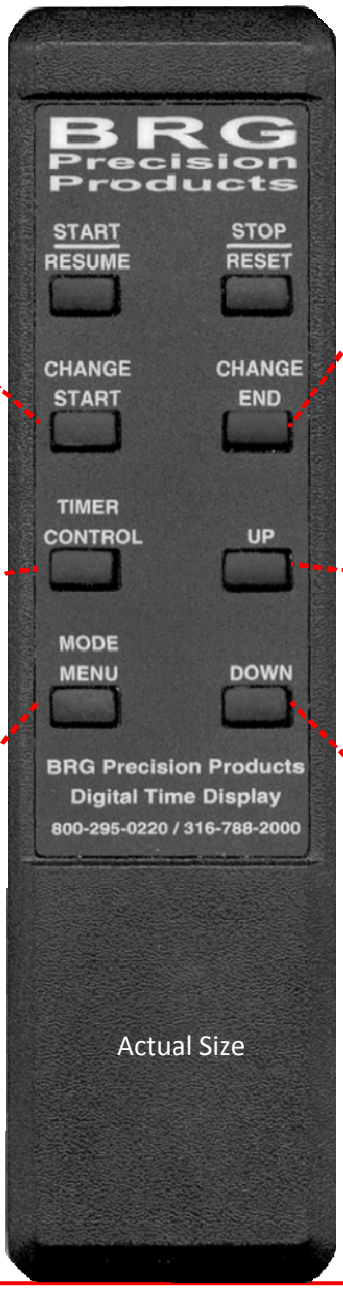
# Long Duration Timer Infrared Remote Control

The infrared remote control is standard with time zone displays and optional on other models. It can be used to control real time displays, timers and counters. The remote can also be used to access and change the clock's configuration. The remote control receiver must be factory installed.

Target Month/Day, Year- Press once to access month/day. Press Up or Down to change. Press again to access year. Press Up or Down to change. Press again to exit.

Real Time - Press to display real time. Press Up or Down to change. Press again to return to timer mode.

Menu - Press to access the menu system. Call for assistance before accessing the menu system.




Actual Size

Target Hours:Minutes – Press once to access hours:minutes. Press Up or Down to change. Press again to exit.

Increment Number Displayed

Decrement Number Displayed

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# Configuring Time Zone Displays

To configure a time zone clock to display the correct times you must determine three things about each time zone:

1. Time Zone Offset: This is the time differential between UTC or ZULU time and the selected time zone measured in hours. Eastern Time, for example, is -5 hours relative to UTC time and Germany is +1 hour relative to UTC time. Since some states have more than one time zone, you may need to verify the offset for a particular city or region in a state. Florida, for example, has both Central and Eastern time zones. The mode for time zone offset is mode 21.

2. Daylight Savings Time (DST) Code: Time adjustments for DST is controlled by codes in the mode settings that considers both the time shift for DST and the dates and times when DST starts and ends. The dates for DST in the northern hemisphere are generally opposite the dates for DST in the southern hemisphere as the seasons are reversed. DST is also subject to changes in governmental policy. Setting the codes for accurate DST codes requires careful attention because some states and counties do not observe DST. The mode for DST codes is mode 24.

3. Forced Time Advance: Afghanistan, Iran, India, and Newfoundland use a +30 minute forced time advance in addition to the time zone offset. The mode for forced time advance is mode 33.

Here is a sample time zone table and related mode settings:

| Zone Number | Zone Name | Mode 21 (UTC Offset) | Mode 24 (DST) | Mode 33 (Forced Offset) |
|---|---|---|---|---|
| 1 | Eastern | -5 | 1 | 0 |
| 2 | Zulu | 0 | 0 | 0 |
| 3 | Germany | 1 | 2 | 0 |
| 4 | India | 5 | 0 | 1 |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

BRG has posted a guide at the following link that lists a wide range of locations and appropriate mode settings for time zone displays:

http://www.brgprecision.com/TimeZones.pdf

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In order to correctly program a time zone display, the exact numbering of the displays is critical. Many time zone displays have the displays in a row and are numbered left to right.


If your time zone display has both time and date displays with the date below the time for each respective time zone, the display numbering is usually top left as 1, bottom left as 2, second left top as 3, and second left bottom as 4, etc. With these clocks, the time displays are numbered 1,3,5,7, etc. The date displays are numbered 2,4,6,8, etc.


if your time zone clock has multiple rows and columns you will need to determine the actual display numbering for your clock by using the special diagnostic mode 6 which will cause the displays to show their display number instead of their normal time or date display. In examples shown below, the first display is usually the upper left or the center display.

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DeterminingDisplayNumber

By pressing and holding the MODE button down until the number 1 display performs a slow count up to 6 and then releasing the MODE buttom, the clock will then show the display numbering layout. The number one display is the only display that responds to the mode button. The display may blink for a few seconds when you first press the mode button but will stop blinking, go to 0 and then start the slow count upwards.

BesuretoholdtheMODEbuttondownuntilthefirstdisplaycountsallthewayto 6andthenquicklyreleasetheMODEbutton.

The displays will show their respective numbers for about a minute and then the clock will automatically return to normal display. You should make notes regarding the display layout and numbers so that you can correctly match the mode settings to the correct display number.


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Before actually setting the modes for a time zone display, you should fill out a mode table for your clock listing the time zones and their mode settings.

A blank 24 time zone table for your use is provided at the end of this document.

| Zone Number | Zone Name | Mode 21 (UTC Offset) | Mode 24 (DST) | Mode 33 (Forced Offset) |
|---|---|---|---|---|
| 1 | Eastern | -5 | 1 | 0 |
| 2 | Zulu | 0 | 0 | 0 |
| 3 | Germany | 1 | 2 | 0 |
| 4 | India | 5 | 0 | 1 |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

The mode settings for the above table are as follows:

| | | |
|---|---|---|
| 21-1 = -5 | 24-1 = 1 | 33-1 = 0 |
| 21-2 = 0 | 24-2 = 0 | 33-2 = 0 |
| 21-3 = 1 | 24-3 = 2 | 33-3 = 0 |
| 21-4 = 5 | 24-4 = 5 | 33-4 = 1 |

Note that the successive 1, 2, 3, and 4 refer to the display locations on the clock. For example, the mode setting 24-3 = 2 sets mode 24 for display 3 to a value of 2. This sets the DST code for Germany, the third display on the clock.

Please refer to the 'Naviagting the Mode Menu System' for guidance in the procedures for setting modes in your BRG clock.

| Zone Number | Zone Name | Mode 21 (UTC Offset) | Mode 24 (DST) | Mode 33 (Forced Offset) |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |

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| Zone Number | Zone Name | Mode 21 (UTC Offset) | Mode 24 (DST) | Mode 33 (Forced Offset) |
|---|---|---|---|---|
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |

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# Setting the Date and Time on your BRG Clock

In order for your clock to accurately adjust for Daylight Savings Time, the internal date must be correctly set. The current date and year are stored in modes 1 and 2.

BRG clocks are shipped with a lockout feature enabled to prevent accidental changing of the clock configuration.

To determine if your clock is locked, press the MODE button once and see if a number 1 shows in the display. If your clock has multiple time zones, only the #1 display will show the number 1 after the MODE button has been pressed. If the display flickers when you press the MODE button, the lockout must be overwritten in order to access the mode menu.

Lockout Override

To override the lockout feature, press and hold the MODE button down until the display quits flickering and then quickly release the MODE button. The display will show the number 1, the first mode selection.

Setting Month, Day and Year

Go to Mode 1 as outlined above. Press the MODE button to display the Month and Day currently stored in the clock. Use the UP and DOWN buttons to adjust the Month and Day to the correct date. Press Mode again to return to mode 1. Press the UP button an go to mode 2. Press MODE to display the year stored in the clock. Use the UP and DOWN buttons to correctly set the year. Press MODE to go back to mode 2. To exit the mode system after setting the correct date, press the DOWN button twice to go to mode 0. The clock will restart after a short delay.

Setting the Time

At this point, you have 1 minute to adjust the time by pressing the UP or DOWN button before the lockout takes effect again. If you do not complete the time correction before the lockout occurs, repeat the override procedure to enter mode 1, press DOWN, and continue to adjust the time. You do not need to set the date and year again at this point.

Each time you press the UP or DOWN button, the seconds are reset to zero. If you are setting the clock against a time standard, you will want to change the minute on your clock at the instant that the standard changes to the next minute.

If you are setting the time on a multiple time zone clock, setting time on the #1 display will also set the relative times on all the other time zones. Only the #1 display will show the time changing as you are adjusting it. When you have finished changing the #1 display, the other displays will change their times according to their respective time zone offsets.

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# Time Zone Digital Lettering Guide

BRG time zone displays optionally display the name of the time zone using digital lettering displays which allows for changing the time zone label using the mode menu system or a computer connection to the clock. This guide is for manually changing the time zone labels using the 4 mode buttons on the clock or the handheld remote control and focuses on mode 51-n of the mode menu system.

If you are not familiar with the mode menu system, please review the 'Mode Menu Guide' before attempting to change the zone labels to gain an understanding of how to navigate the mode menu system.

Zone labels are of the bar segment or dot matrix type. The difference between the two is self-explanatory as the bar segment displays appear to have bars that illuminate and the dot matrix diplays are made up of clusters of dots in a 5 x 7 matrix. The important difference in the two is that the bar segment displays are typically arranged in groups of eight characters and the dot matrix are arranged in groups of ten characters. The display length is significant when centering a label under a time zone display.

Before starting to change your digital lettering, take the time to list your new labels and determine how you are going to center them. As a general rule, count the characters in the label and subtract from the length of the display and divide the difference by 2. This will determine the number of blank spaces on either side of the active label.

For example, to center 'ZULU' in a bar segment display, the math for the spacing would be 8-4=4, 4/2=2 or 2 blanks in front of ZULU and two blanks trailing:

---ZULU---

The spacing for ZULU in a dot matrix display would be 10-4=6, 6/2 = 3, or 3 leading and 3 trailing spaces:

----ZULU----

If the label is an odd number of characters like 'Eastern', most users prefer to offset the label slightly to the right under the display. The centering math for 'Eastern' for a dot matrix display is 10-7=3, 3/2=1.5. Since there is no ½ space, you would put 2 spaces on the left and one on the right:

--Eastern-

If your label is longer than the display you will need to determine the abbreviation you will use for the label. You can abbreviate to the exact length of the display or abbreviate to a shorter length and repeat the centering math for the abbreviation.

Before actually programming the digital lettering, you need to know how to navigate the mode menu system. Refer to the 'Mode Menu.doc' for guidance.

Once you have your label layout ready, you can enter the mode menu system and go to mode 51-1. Press the MODE button and you will see a cursor under the first character in the zone lettering and the number 1 in the first time zone display. At this point you are in the CURSOR mode of mode 51 and the first time zone display will show the current cursor position.

Press the UP button and the cursor will move to the right. Pressing the DOWN button will move the cursor to the left. In this manner you can move across the labels to the character you want to insert or change.

Once you have located the cursor under the character position you want to change press the MODE button again and you will be in the CHARACTER mode where you can change the character in the position you are located at. The code for the current character will be shown in the first time zone display and the character itself will be shown in the cursor position. Some character codes will not be visible at the cursor position but the code for that character will show in the first time zone display. A blank character, for example, will not display at the cursor but will show a 32 in the first time zone display. When you press the UP button a sequence of characters will begin to display at the cursor position and the code for those characters will show in the first time zone display. By moving up and down through the sequence you can locate the character you need.

Upper case: letters A-Z have codes 65-90
Lower case: letters a-z have codes 97-122

Remember that code 32 is used to erase a character in the event you are programming a shorter legend than the previous one.

The trick to using mode 51 is to understand that the MODE button switches you from the CURSOR mode used to change position to the CHARACTER mode used to change the character displayed at the cursor position.

# Ethernet Communications

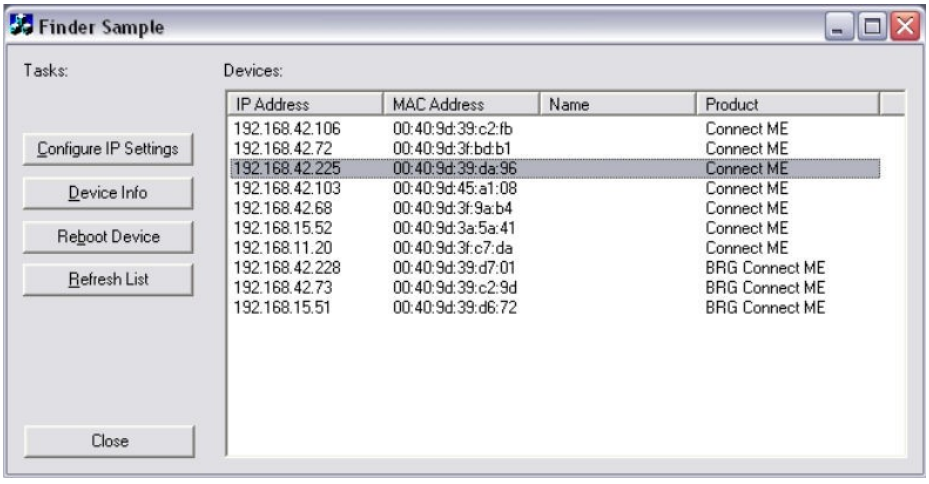
## Overview

Once the clock is connected to the network and power is applied, DHCP is used to automatically assign each clock an IP address on the network. The clock will then search the Internet or local area network for NTP time servers. NTP (Network Time Protocol) is a uniform method of sending time over a computer network. By default, the clock will automatically connect to the local network and attempt to act as a client to public or local SNTP time servers. SNTP is a subset of the NTP protocol. SNTP provides Universal Coordinated Time (UTC) to the clock. The clock then implements local time zone offsets and daylight saving rules to display the correct local time. The correct time will display within a few minutes of obtaining a time server lock. The clock includes a list of 10 Internet SNTP time servers. Local SNTP time servers may also be used. The clock includes a network web server which is used to configure various network communication parameters.

## Ethernet Interface

The Ethernet interface includes an easy to use web interface. Automatic address configuration (DHCP) is enabled by default. However, if a fixed network address will be used instead of DHCP, then the interface configuration will need to be changed.

To configure the Ethernet interface, it must first be located on the network. The DuraTime Wireless Control program is used to discover clock(s) located on the same subnet as the PC. Alternatively, a program is available (finder.exe) that will locate the clock most anywhere on the local network if DHCP successfully configured it.




The finder.exe program is a software tool that can be used to locate the Ethernet interface just about anywhere on the local network. However, it cannot be used to configure the interface. Compare the MAC address on the product label with those listed on the finder.exe program. If there is a match, then the IP address will be listed next to it.

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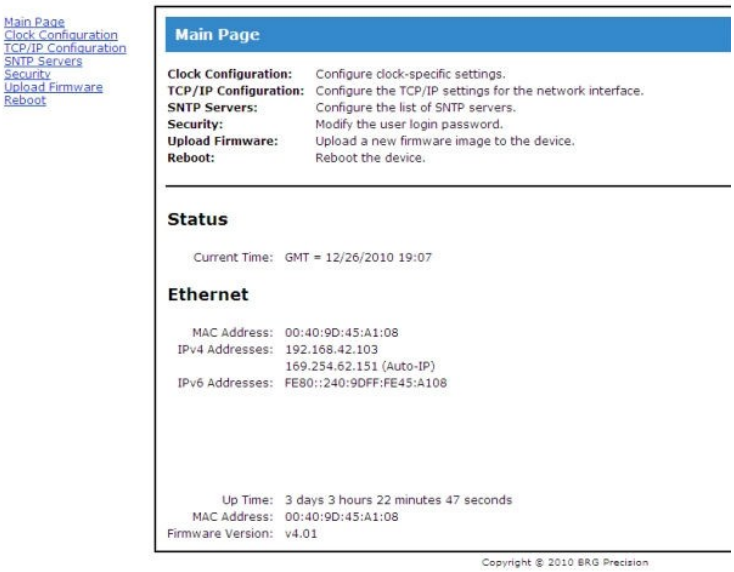
Once the IP address is discovered, click on the desired address to configure. Then, click on the "Browse" button to access the configuration menu where the IP address, net mask, and gateway address can be entered.

Another method of configuring the Ethernet interface is to connect the PC directly to the Ethernet interface using a special cross over cable. Later model computers will automatically detect the need to cross over the signal pairs. All network connections must be disabled on the computer except "Local Area Connection". Right click on the network icon at the bottom of the screen. Click on “Open Network Connections”, or go to, Start > Control Panel > Network Connections. If "Local Area Connection" is not the only enabled connection, right click on the other connections and click on disable.

## Network Interface Configuration Web Interface

The main page displays a variety of general information about the configuration and activity of the Ethernet interface.



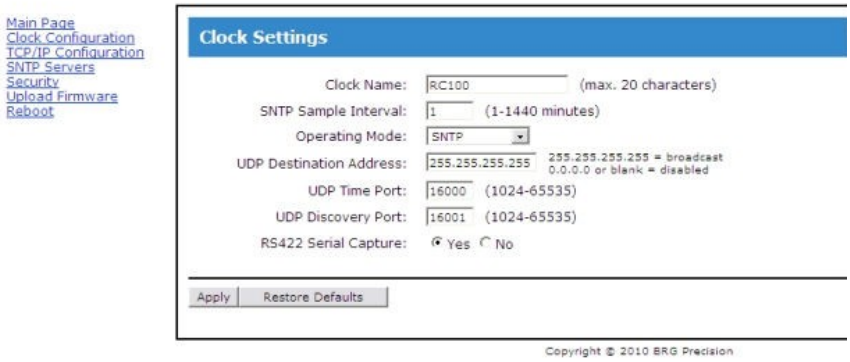

## User Name and Password

The menu in the left column allows selecting several sections of the interface. A user name and password is required to enter any section other than the main page.

The default user name is: user
The default password is: password

The user name and password should be changed after installation. Store the user name and password in a safe location for later reference.

Clock Configuration




Clock Name - is the user defined name used to identify the device during a network search.

SNTP Sample Interval - is the time in minutes between SNTP time updates. The default is one minute.

Operating Mode - defaults to SNTP and should not be changed unless directed by factory technical support staff.

UDP Destination Address – is the IP address for the clock to send responses to, typically the control PC.

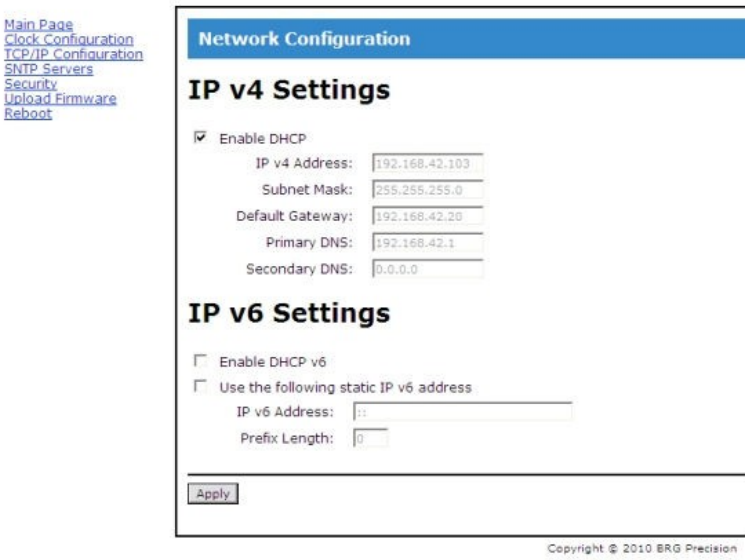
UDP Time Port – default 16000, for UDP time broadcasting, not usually used for SNTP time acquisition.

UDP Discovery Port - default 16001, for UDP commands and discovery by the Windows control program.

RS422 Serial Capture – is used by factory support staff only.

Click on the Apply button to save changes.

TCP/IP Configuration

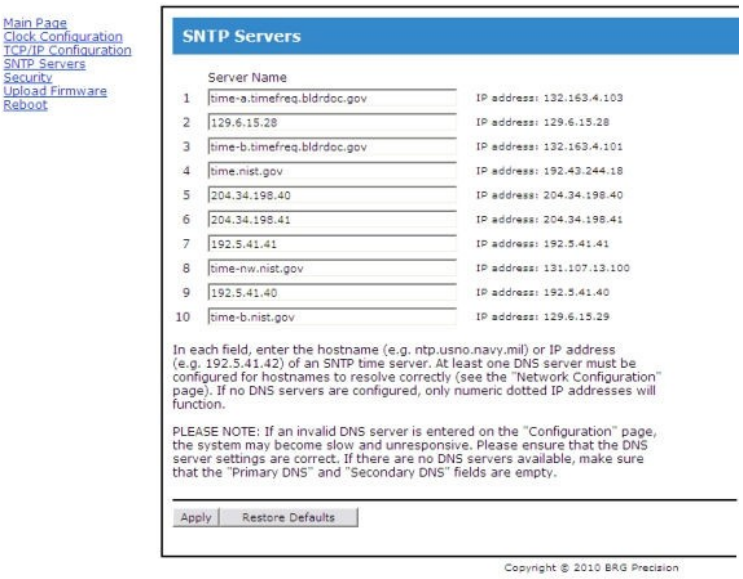



Enable DHCP – check to enable automatic IP address configuration using DHCP. Uncheck to use manual address configuration. The address fields will be grayed out when checked.

IP v4 Address – enter the IP address using version 4 protocol
Subnet Mask – enter the subnet mask
Default Gateway – enter the gateway IP address
Primary DNS – Domain Naming Service address - required if one or more alphabetic named SNTP servers will be used. Not required if all SNTP server addresses are numeric. Secondary DNS - Domain Naming Service address - optional

The factory default addressing mode is DHCP. If your network has a DHCP server, simply connect the clock to your network and the clock will acquire a leased IP address. The lease acquisition can be almost immediate or may take several minutes. You can use the DuraTime Digital Control program to determine the leased IP address by going to Setup/Clock IP Discovery. You may not see your clock listed in the discovery panel until it has acquired a lease. You cannot access the Ethernet interface until it's acquired an IP address. Once the clock has acquired an IP address, you then select the clock from the discovery listing by clicking on it. Then click the browse button to open a session to the Ethernet interface.

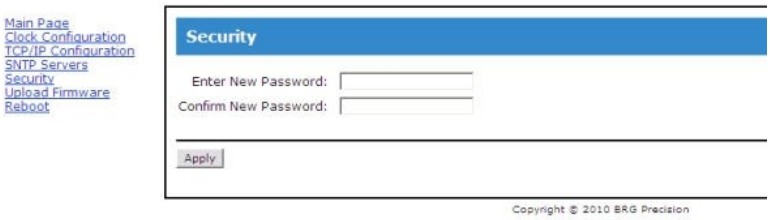
SNTP Time Servers




Server Name – enter the numeric IP addresses or alphanumeric named addresses of the desired network time servers. The default configuration includes ten government time server addresses.

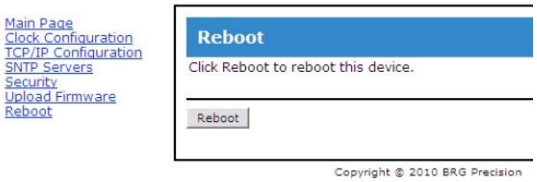
Once the clock has an IP address it will attempt to contact the first SNTP time server in the list. If the network firewall prevents the clock from reaching the Internet, change the SNTP addresses listed to only local network SNTP time servers. Remove any server addresses outside the local network.

Security




Change the password as needed. Be sure to store in a safe location for future reference. Click on the Apply button to invoke the change.

Reboot



Click on the Reboot button to restart the network interface.

## Time Synchronization Problems

If your clock is not synchronizing with an Internet SNTP time server, check the following items:

- The NIC must have a valid DHCP or fixed IP address.
- The NIC must be in the SNTP operating mode.
- If you are using fixed IP addressing, the clock must have the correct gateway address to access the Internet. The gateway is the first router that the clock must go through to access other networks or the Internet.
- Your network firewall must allow the clock to access the Internet through port 123. The clock must have the default NTP timer server IP address loaded into the NIC.
- If using named SNTP servers, be sure a valid DNS address is provided, or use only numeric SNTP server addresses.

If your clock is not synchronizing with a local network NTP time server, check the following items:

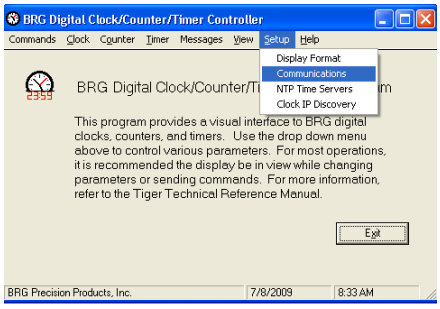
- The NIC must have a valid DHCP or fixed IP address.
- The NIC must be in the SNTP operating mode.
- If you are using fixed IP addressing, the NIC must have the correct gateway if the server is on another network. The gateway is the first router that the clock must go through to access other networks.
- The correct NTP timer server IP address must be loaded into the NIC.
- If using named SNTP servers, be sure a valid DNS address is provided, or use only numeric SNTP server addresses.

## Technical Support

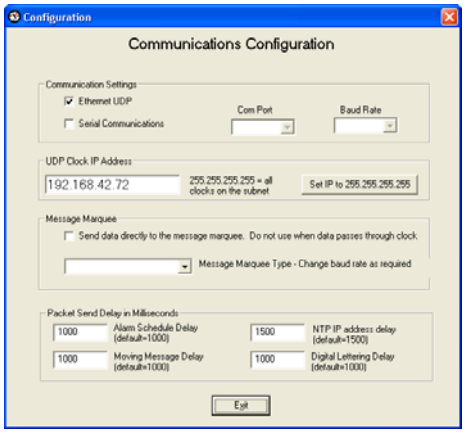
For BRG Technical Support, call 1-316-788-2000, 8am-5pm, U.S. Central time, or email www.support@brightclock.com.

# Setting up communication with your clock

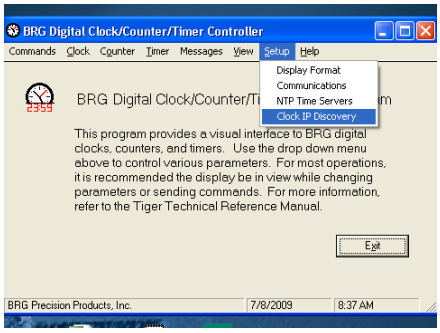
Select communications to begin the process of selecting and communicating with your clock.




Select Ethernet or Serial connection according to your connection type.

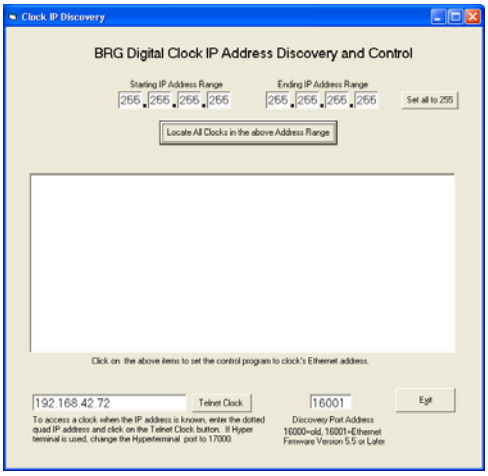



Click Clock IP Discovery.




600 N. River Street ● Derby, Kansas 67037 ● 800-295-0220 ● 316-788-2000 ● Fax 720-293-9393
sales@brgproducts.com ● www.brgprecision.com

Click Locate all clocks.
Highlight yours.
Click exit.



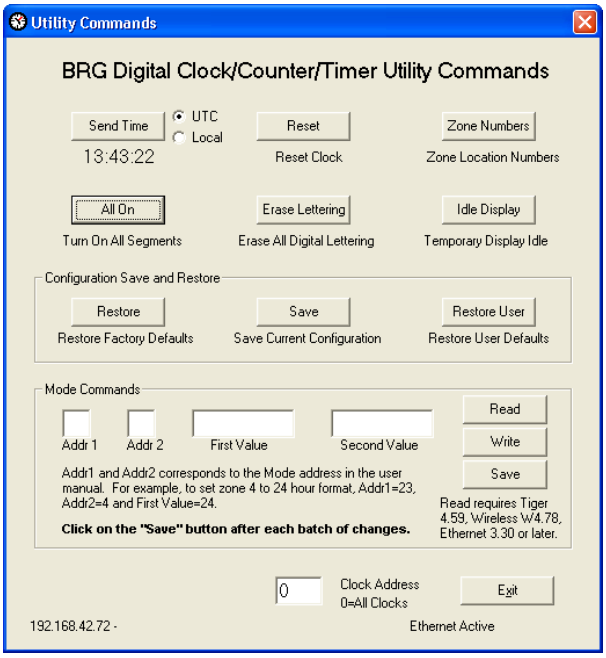

Click Commands and then select Utility Commands.


This is the resulting screen that allows you to send information to the clock (time and program settings). For further assistance please call 800-295-0220 ext 224 or ext 208.

NOTE: ****** In an event of an error and if all else fails *******

(Special Mode 3 will restore the last known good saved configuration).

(In Tiger Processors this would be Accomplished by pressing and holding the ‘mode’ button, the clock will flash and begin to count, When the clock gets to ‘3’, release the mode button and press and release the ‘timer control’ button.
The clock will reset.

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Tiger Version: _____ # of DSPLY, mode 18: _____ Mode 87: _____ Date: _____

## Common Modes

| | Display Format | TZ Offset | Time Source | 12/24 | Daylight Savings | Forced Offset |
|---|---|---|---|---|---|---|
| DSPLY | 20 | 21 | 22 | 23 | 24 | 33 |
| 1 | 31 | | | 24 | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |

## Special Modes

| Function | Modes | Default | Value |
|---|---|---|---|
| UTC/Local time SR | 32-8 | 1 | |
| UTC/Local time ST | 32-9 | 1 | |
| Serial Sync Transmission | 32-12 | 0 | |
| Repeat clock control commands | 32-47 | 0 | |
| SR/ST port operation | 32-60 | 0 | |
| | | | |
| Auto brightness option | 32-14 | 0 | |
| Special controls and devices | 32-15 | 0 | |
| Leading zero blanking | 32-28 | 1 | |
| Reset & Initialize Display Drivers | 32-29 | 2 | |
| Clock Address for PC, MM, RM | 32-42 | 0 | |
| Moving message com. Repeater | 32-44 | 0 | |
| Temperature Sensor | 32-50 | 0 | |
| Lock out controls | 37-29 | 1 | |
| | | | |
| | | | |
| Serial Polling Rate | 32-64 | 0 | |
| Time Reception Port Control | 32-68 | 0 | |
| NMEA GPS Operation | 32-69 | 0 | |
| Enable serial port time sync tran | 32-70 | 0 | |
| Temperature Sensor Samples | 45-24 | 1000 | |
| Temperature Sensor Adjust | 46-1 | 0 | |
| Power line communications | 32-20 | 0 | |
| SR TZ Offset | 45-5 | 0 | |
| Serial Sync Output Delay | 45-9 | -1 | |

## DST Rule Setup (rule 0=No DST)

| Rule | Date Range Start | Date Range End | | Custom Julian Start | Custom Julian End |
|---|---|---|---|---|---|
| 10 | 45-20 | 45-21 | | 52-1 | 52-2 |
| | | | | | |
| 11 | 45-22 | 45-23 | | 52-3 | 52-4 |
| | | | | | |
| 20 | 45-30 | 45-31 | | 52-5 | 52-6 |
| | | | | | |
| 21 | 45-32 | 45-33 | | 52-7 | 52-8 |
| | | | | | |
| 22 | 45-34 | 45-35 | | 52-9 | 52-10 |
| | | | | | |
| 23 | 45-36 | 45-37 | | 52-11 | 52-12 |
| | | | | | |
| 24 | 45-38 | 45-39 | | 52-13 | 52-14 |
| | | | | | |

OT

## Digital Lettering Date Format

| Display # | 51-1 | 51-6 | Display # | 51-1 | 51-6 |
|---|---|---|---|---|---|
| 1 | | | 21 | | |
| 2 | | | 22 | | |
| 3 | | | 23 | | |
| 4 | | | 24 | | |
| 5 | | | 25 | | |
| 6 | | | 26 | | |
| 7 | | | 27 | | |
| 8 | | | 28 | | |
| 9 | | | 29 | | |
| 10 | | | 30 | | |
| 11 | | | 31 | | |
| 12 | | | 32 | | |
| 13 | | | 33 | | |
| 14 | | | 34 | | |
| 15 | | | 35 | | |
| 16 | | | 36 | | |
| 17 | | | 37 | | |
| 18 | | | 38 | | |
| 19 | | | 39 | | |
| 20 | | | 40 | | |

| SERIAL NUMBERS | MAC ADDRESS |
|---|---|
| | 00-40-9D- |
| | 00-40-9D- |
| | 00-40-9D- |
| | 00-40-9D- |
| | 00-40-9D- |
| | 00-40-9D- |
| | 00-40-9D- |
| | 00-40-9D- |
| | 00-40-9D- |
| | 00-40-9D- |

## Digital Lettering Modes

| | | | |
|---|---|---|---|
| # of zone fields | 32-3 | 1 | |
| Digital lettering type | 32-54 | 1 | |
| # of alpha digits | 51-2 | 0 | |
| Alpha operation mode | 51-3 | 0 | |
| Alpha rotation speed | 51-4 | 4 | |
| Alpha character sequence | 51-5 | 1 | |
| DL command offset | 45-25 | 0 | |
| Alpha DL Menu System | 32-58 | 0 | |
| TZ DL Manual Frame Change | 37-20 | 0 | |
| | | | |

Version: 1 Version Date: 7/8/2011 Technician: _____ Assembler: _____